

SPORTS



A scene from the bunch individual race, part of the Aeroflot Prize programme, the first international cycling event of the new season at the Krylatskoye Olympic track.

Photo by Yuri Vladimirov

So far so good in speedway championships

The USSR has a clean slate following the quarterfinals of the world ice speedway championships, as nine of the 12 entrants have improved their positions.

While Vladimir Lyubich, Alexander Sinyshiyev, Vitaly Kuznetsov, Vladimir Sukhov, Anatoly Gladyshev and Alexander Moskovskiy won the right to appear in the semifinals after races in Sweden and Italy on January 7 and 8, Anatoly Bonstrenko, Vladimir Subbotin and newcomer Yuri Ivanov did the same in an elimination tournament in Holland. Ivanov's performance at Eindhoven was a pleasant surprise—he won all his heats scoring a maximum 30 points. World ex-champion Bonstrenko had a collision with Rolf Thuy of Holland, in the closing heat but still came third with 23 points. Thuy was second with 28 and Subbotin fourth with 21 points.

Boris MIRKHALOV



Moscow Central Army Club had to struggle to edge Sverdlovsk Uralochka 3-2 in a recent national volleyball championship game. Photo by Boris Koutman

FULL LINE UP FOR SARAJEVO

(Continued from page 1)

These are just a few of the many competitions. Hundreds of thousands of people take to their skis on weekends in Sverdlovsk, Khabarovsk, Krasnoyarsk and in Estonia.

Tremendous attention in this country is paid to the development of children's sports. Marat Gramov said, skating and skiing are taught in kindergartens and schools. Millions of children take part in the popular Golden Puck and Pleded Ball competitions.

The Soviet national team will perform in Sarajevo in all ten events, being one of the largest with 120 to 125 athletes. The bobsledders will be competing for the first time.

Marat Gramov told the press that the USSR national team had 8 Olympic champions and 34 champions of the world.

In this Olympic year Sarajevo is well prepared to welcome the athletes, while disturbing reports continue coming in from Los Angeles about unresolved problems involving the Summer Olympics. MNI correspondents asked Marat Gramov about the results of the recent visit to Los Angeles of a delegation of the Soviet Sports Committee.

gation of the Soviet Sports Committee.

We returned to Moscow with mixed feelings, replied Marat Gramov. For seven days we examined the sporting facilities and the Olympic villages. The distances between them are great. We held talks with the President of the Los Angeles Organizing Olympic Committee Peter Ueberroth and found common language on most issues.

At the conclusion of our visit we signed a confidential protocol. It outlines all the problems we shall meet if we go to Los Angeles. They include transport, accommodation and practicing conditions. The State Department then interfered, telling the Soviet Embassy in Washington that the president of the Organizing Committee had no right

Samaranch's accolade for Sarajevo Games

The 14th Winter Olympics in Sarajevo promise to be the best yet, IOC president Juan Antonio Samaranch told a Tanjug correspondent. I have gained this impression from what I have seen of the preparations for the Games. All the facilities are in place and of excellent quality, he remarked.

Samaranch said that high results could be expected in such fields as figure skating and ice hockey. He underscored the big sign-

to sign such a protocol. I remind you that during the Olympic Games in Moscow one of the national delegations dealt with our Ministry of Foreign Affairs or with any of the state organs. They dealt with the Moscow Organizing Olympic Committee. But they try to drag us into a discussion with the US State Department. Taking into account the rules and requirements of the Olympic Charter, we will enter into any discussion with the State Department.

We ask the Los Angeles Organizing Olympic Committee to carry out the obligations of the US president under the International Olympic movement.

Alexander BUTSEN
Gennady LEONOV

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ficance the Sarajevo Olympic Games can play in bettering the needed international climate to help bring about some relations between states and nations and advance international cooperation, he stressed, is an important goal of sport and the Olympic movement. Sports delegations from right across the world will converge on Sarajevo, not simply to compete in the Games but to promote friendship and cooperation.

We fight not only the guerrillas, but also those who support them. We use the same tactics as the USA in Vietnam," a "Christian Science Monitor" correspondent was told by a Salvadoran "soldier" who took an immediate part in punitive operations. His words paint a clear picture of the criminal genocidal policy with regard to its own people being carried out by the bloody regime of Magana, with the support of the US administration. In the photo from "Camera press" soldiers on a punitive operation take a young San Salvador girl off to questioning.

The other photo from "Soldiers of Fortune" shows a US instructor, (left) hugging Lieutenant-Colonel Cruz, a butcher of the Salvadoran people, whose men carry out bloodbaths among the population of Mexican province.

WPC APPEAL

West Berlin. A recent emergency session of the Presidium of the World Peace Council has adopted an appeal to all peace-loving forces of the planet, in which it is noted that by starting the deployment of Pershing-2 and cruise missiles in West Germany, Britain, and Italy, the USA rides roughshod over the will of other peoples, which is expressed in the biggest anti-war demonstrations to date. The Washington has committed a criminal act against peace.

The escalating world-wide re-

American missiles, it is noted in the appeal, primarily in those countries where it has actually begun, is clear evidence that the peace movement will never give way to nuclear blackmail. The movement offers the hope that the current situation could be changed for the better. In this respect the Council urges all peace-loving forces to work still harder to bring the deployment to a halt and to achieve the removal of the new American nuclear missiles already cited in Europe. It emphasizes the need to restore the situation in West

and East prior to the deployment of American missiles, and thus lay the groundwork needed for the resumption of honest and businesslike nuclear arms limitation talks.

Equal security is the only realistic basis for cutting back nuclear armaments in both West and East, until they are totally eliminated. It is underlined in the appeal. The Council urges all peace-loving quarters to fight still more vigorously against NATO's sinister plans. A joint drive by all the participants of the powerful peace movement, it is pointed out, could force all governments to lend their ears to the voice of the peoples—a voice of reason and peace.

Indira Gandhi on U.S. policies

Delhi. The Indian Prime Minister, Indira Gandhi, has sharply criticized the American administration's foreign policies. The Prime Minister said these policies are aggravating the international situation and creating new pockets of tension. In an interview given to the Associated Press news agency, she pointed out that the United States is resorting to a smokescreen by using statements about supporting democracies to

camouflage its all-round support for dictatorial regimes in various countries. The Washington administration is constantly speaking about democracy, the Indian Prime Minister said, and asked, whom does it give its support to in practice? Most of the governments using American aid have nothing in common with democracy. As an example she mentioned the aid the United States gives Pakistan, South Ko-

rea, and a number of states in Africa and Latin America. Indira Gandhi pointed to the existence of profound contradictions between India and the leading Western powers regarding the main international issues. She said that the Reagan administration is trying to isolate India economically, and is using discriminatory financial policies against her country.

USSR picks up handball trophy

The Soviet Union has come out on top in the World Cup handball championship, their second successive top award, after beating Denmark 27-23 in the final game. Third-placed Yugoslavia beat their Swedish hosts 22-20. Poland came fifth, followed by the GDR, Spain and West Germany.

In the photo: a tense moment in the World Cup final match.

Round the Soviet Union

● CONTROLLING THE CITY WATER SUPPLY IN Khabarovsk in the far east is now done by electronics, developed and phased in by specialists in automated control systems. A computer selects an optimal supply of water for every borough, foresees any necessary changes and warns of emergency situations. This development has helped stabilize the provision of city water and has considerably cut down on waste.

● SCIENTISTS AT THE SIBERIAN PHYSICS AND TECHNOLOGICAL INSTITUTE IN TOMSK HAVE COMBINED COLD AND ULTRASOUND IN ONE DEVICE, CREATING A CRYO-ULTRASOUND KNIFE. A very thin ultrasonic line was connected with ordinary surgical scalpel, and the blade was cooled to -190°C. At the same time the incision is made bleeding stops.

● A PERMANENT DISPLAY OF ECONOMIC ACHIEVEMENTS HAS OPENED IN SMOLENSK, IN CENTRAL RUSSIA. The new building contains thousands of items. Among them are scale models of planes, electronic computers, control devices, automatic manipulators and consumer goods.

NEW LOOK IN POWER STATIONS

In order to save electricity for peak load hours it is planned to build a new type of power stations—the air storage stations—in this country. The Leningradsky Metallicheskoy Zavod association has now completed a design for standard equipment for such stations: compressors ensuring compression of up to 60 atmospheres and 350 megawatt gas turbines.

Working in pair with large thermal or atomic power stations the new station will make use of nighttime surplus electricity

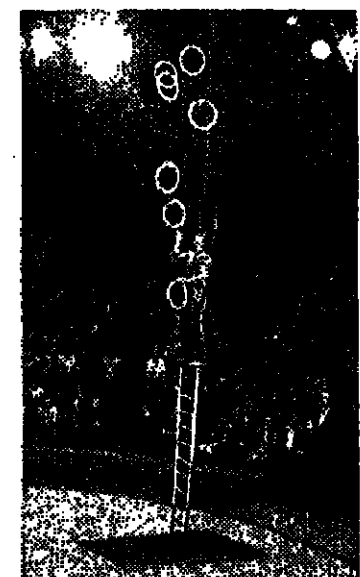
to pump air under high pressure into underground reservoirs of up to a million cu m in volume. In the daytime this air, heated by organic fuel, will turn the blades of the turbines.

Experts believe that the construction of air storage stations as well as of hydro pumped storage stations, which employ a similar principle, will be cheaper than the commissioning of extra back-up capacities at thermal stations whose flexible turbines are only designed to work at hours of peak load.

SUCCESS DEBUT

The 20-year-old Soviet juggler, Grigory Popovich has won the gold medal at the 7th world festival "The Circus of the Future" in Paris. Gold awards also went to two groups of Chinese acrobats and a female performer from the USA who combined dance numbers with juggling.

Soviet clowns Vladimir Solyerov and Sergei Solomarin were also voted tops, but they jury decided not to award gold medals in this genre and they were presented with silver medals. This is the first time representatives of the Soviet Union have taken part in the Paris world competition of young circus performers, says festival jury member and noted artist of the Soviet circus and cinema Yuri Nikulin. Under the terms of competition, young performers no older than 25 may enter and the age barrier is 30 in the clown group. It is gratifying that all representatives of the Soviet circus school captured top awards.



In the photo: the juggler Grigory Popovich.

MOSCOW SIGHTS



Moscow today. A view of the Kremlin's Boklemyevskaya (Moskovskaya) Tower and of the Rostovskaya Hotel. Photo by A. Sentyayev (TASS)

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At an auction in London, a record price of 472 thousand dollars was paid for a charcoal drawing made by Peter Paul Rubens in the 17th century.

Round the Soviet Union

● A UNIQUE NATURAL ZONE COVERING ABOUT 50,000 HECTARES IN THE NORTH OF KARELIA HAS BEEN DECLARED A STATE RESERVE (KARELIA IS AN AUTONOMOUS REPUBLIC IN THE NORTH-WEST OF THE USSR). According to scientists, nature in the reserve, which is named Kosmonomskiy after the youngest town in the republic, is to be seen in its primordial form. Researchers are thus provided with a rare opportunity for plant-breeding using the richest genetic stock of millennia.

● ONE MORE POWERFUL "FILTER" HAS GONE INTO OPERATION TO PROTECT THE BALTIC SEA FROM POLLUTION—THE SECOND PART OF THE LENINGRAD CENTRAL STATION FOR AERATION WHICH IS capable of processing, using mechanical and biological means, 750 thousand cubic metres of drainage water. It is situated on an artificial island at the mouth of the Neva River. In accordance with Leningrad's environmental protection programme, two more stations are being built on the shore of the Gulf of Finland.

● A SECOND SECTION OF PRODUCTIVE CAPACITIES OF THE VENTSPILS PRE-PORT PLANT IN LATVIA, BALTIC REPUBLIC, HAS BEEN COMMISSIONED. The first tanker was loaded with methane. The plant supplies the north-western region of the country with liquid fodder, and chemicals. The plant's capacity has grown threefold.

BOOMING PRODUCTION

The potential of the Neryunginskaya quarry, in eastern Siberia, has been boosted by the third section of the enterprise which has just gone into operation. It will now be possible to mine 9,000,000 tonnes of fuel annually.

The first railroad trains carrying coal taken from the coal-face of the new section have been despatched to consumers.

FROM THE SOVIET PRESS

VALUABLE CASPIAN SEA AREA

It is common knowledge that Western Siberia has the largest deposits of oil and gas in the Soviet Union. And there are good grounds to place the Caspian depression second, says L. Kityukhin, a well-known expert in the geology of oil and gas deposits, Doctor of Sciences (Geology and Mineralogy), writing in PRAVDA.

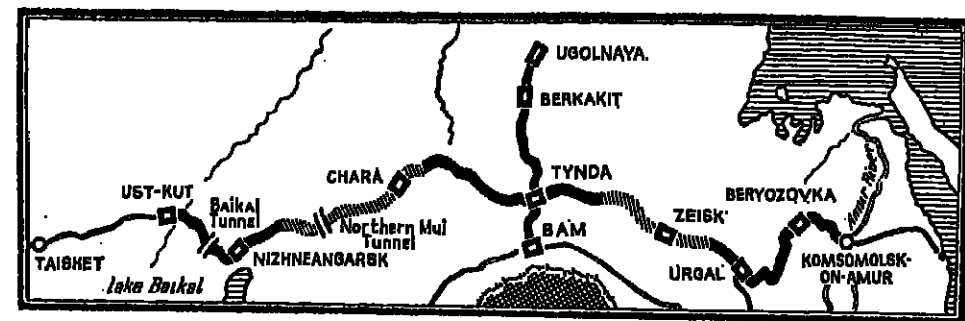
The volume of geological, geophysical survey work in the Caspian depression was considerably enlarged in the 10th (1975-1980) and 11th (1980-1985) five-year plan periods. As a result, a large number of oil, gas and condensate deposits, including those at Astrakhan, Kachegorsk, Zharnashol and Terzhi were discovered. The thickness of the oil and gas bearing layer of sub-salt sedimentations at either side of the Caspian depression which stretches approximately 1,000 km from west to east and with a width of over 500 km from north to south, was also established.

A high content of hydrogen sulfide and carbonic acid is one of the distinguishing features of local deposits, says the author. The comprehensive development of just one gas deposit at Astrakhan will make it possible to eliminate shortages in sulfur.

THE SOCIAL ASPECT OF INTENSIFYING PRODUCTION

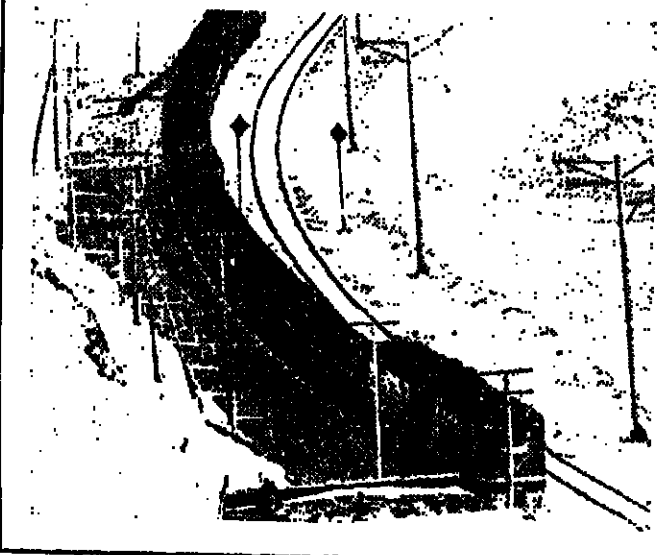
What are the social effects of intensifying public production under socialism? Any intensification in the economy, writes EKONOMICHESKAYA GAZETA, is accompanied by a growth in real incomes and the development, alongside production enterprises, of the social infrastructure.

The newspaper quotes from Yuri Andropov's address at the December 1983 Plenary Meeting of the CPSU Central Committee that all our efforts in the economy



BAM: THE LAST KILOMETRES

October 1984 will see the laying of the last rails on the BAM railway — a 3,400 km railroad, running from the centre of Eastern Siberia to the Pacific coast.



To build the line, which passes through areas of high seismic activity and permafrost, has been one of the most complex engineering feats in railway history. It has some 2,300 bridges (an average of one per 1.5 km of track), and forbidding tunnels, their total length of 30 kilometres.

BAM will play a vital role in opening up Siberia and the Far East of the USSR. In addition to their plentiful fuel and sizeable ferrous and non-ferrous metal ore deposits, these regions contain over half of the Soviet Union's timber and freshwater resources. The mainline forms an important element in the long-term programme for the development of rail transportation in this country. Soviet experts note that the programme is not limited to the construction of new railroads and stone. It also envisages the strengthening of the technical base of transport, improvement of its organization and an increase in its handling capacity.

IMPROVED EXCAVATOR OF SWAMPY

A new excavator, the T-150, an enterprise from the city of Tashkent, capital of the Uzbek Republic, on the coast, can reclaim any time of year, regardless of weather or frost.

This vasty machine drains without damage land by leaving gaps behind it. Having gaps, it wraps them with a protective filter and, with turf, a special device, ensuring the accuracy of the machine's work. Thanks to the efforts of the machine, the people needed to move the land and the quality considerably improved.

Another pipeline commissioner

Tashkent, capital of Uzbekistan, has received its first gas from the Karshi via the Karshi-Syrdarya thermal power pipeline which starts in Syrdarya thermal power plant.

The pipeline crosses populated areas and darya, Chirchik and Angren. In those places, the pipeline was built on fields, the cotton has been cultivated.

This year, the industrial zone of Tashkent, some 100,000 cubic metres of natural gas will be delivered. Increases in the production of electricity, cement, and hundreds of thousands of fuel oil will be thousands of rubles other uses.

By the end of the year plan period, it will be a fifty per cent increase in deliveries of fuel oil to Karshi oil field to capital and contiguous

to improve their living conditions by the end of the year. At the end of the current decade, according to the main directions mapped out for the economic and social development of the USSR in 1981-1985 and in the period up to 1990, practically all the urban population will be provided with housing in terms of a separate well-appointed flat per family.

Plans to increase spending on housing

The programme for economic and social development of the USSR for 1984 passed by the Soviet Parliament envisages a record sum of spending for housing — nearly 30,000 million rubles. Never before has the Soviet Union invested so much money in this sphere. Out of this some 24,000 million will go into the construction of new homes making it possible for over 10,000,000 Soviet citizens

are finally aimed at raising the people's living standards. This is the critical socio-political goal of our plans.

Over the period between 1971 and 1982, the newspaper points out, the people's real incomes rose by 51 per cent, the average wages of blue and white collar workers, by 45 per cent, those of collective farmers, by 72 per cent. In this period 1,286,500,000 square metres of housing were built, enabling nearly 127,000,000 Soviet people to improve their housing conditions.

The 1984 plan contains a wide range of measures to boost the social advance of Soviet society. Real incomes per capita will rise by 3.5 per cent against two per cent in 1983 and 3.1 per cent in 1984 by the five-year development plan, the newspaper notes.

ENERGY: PROBLEMS AND SOLUTIONS

One of the main problems being solved in the Soviet economy today is connected with the commissioning of new capacities in power engineering, and the re-equipping and modernization of existing ones, writes the newspaper SOVIETSKAYA ROSSIYA. A great deal is being done in the country towards this end. In recent years a number of large power stations went into operation. During their construction a considerable number of advanced scientific and technical solutions were applied.

And how are such important aspects as efficient operation of power stations and their ecological neutrality solved? According to the paper, Soviet scientists have done a great deal in this direction. Thanks to enterprises of the Soviet Union as far as their non-polluting effect on the environment is concerned, are considered to be the most favourable in the world. A team of specialists led by G. Kuashilin, Corresponding Member of the USSR Academy of Sciences, made a new contribution to the solution of this problem. Scientists worked out the so-called oxygen-water regime for electric stations, which makes it possible to rel-

ably protect equipment from corrosion. They solved other problems, enhancing reliability, and economical operation of power stations, as well as improving working conditions.

WHY STUDY THE LANGUAGE OF SMELLS?

Interest has increased in the chemical communication which takes place between animals of the same species. This problem is also being studied by Soviet scientists. A special programme of research has been worked out in this country. The programme is called "Feromons" — bearers of information. It then can learn from the language of smells. In the USSR, that certain smells can be of great assistance in solving many problems. As is known, impact made on the environment by traditional chemical methods of plant protection (toxic chemicals) in order to destroy harmful pests, has caused unexpected negative consequences. New means of protection have come necessary, but not connected with toxic chemicals. This role can be played by chemical substances which make it possible to selectively control the behaviour of harmful insects. Scientists have obtained quite good results, writes the journal. The use of dangerous pests such as the cotton weevil, and fruit fly were synthesized. They can be successfully controlled by using traps containing feromons which attract them by the smell resulting in their destruction. The advantage of feromons cannot be overstated and only a very small amount of them is needed for agricultural use. They will also help in the future knowledge of the chemical language of animals will not only reduce the number of toxic species of insects but will also preserve and increase the number of useful ones.

Places to visit

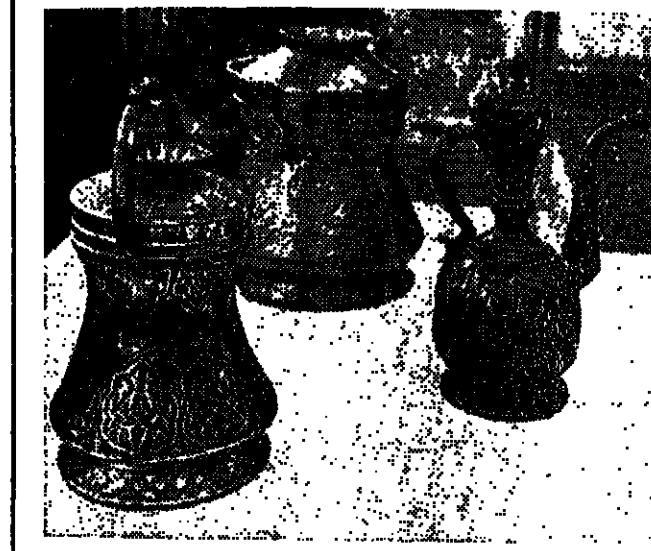
Uzbekistan's Museum of Applied Art

An old mansion, a few minutes' walk from the centre of Tashkent, houses the Museum of Applied Art of Uzbekistan. The 4,000 items in its collection trace the development of the skills of several generations of local craftsmen: woodcarvers, ceramic makers, jewellers, chasers, etc.

Uzbek gold embroidery en-

joys wide popularity. Once the gold embroidery workshops were owned by the Bukhara emirs and only men were admitted into the trade. The most attractive items to be produced by the workshops, garments for the emirs, covers, etc., are on view at the museum.

Masters from Bukhara, Khiva, Samarkand and Tashkent



decorated the museum building and its halls. The ornamental carving on its walls, the main hall with its painted wooden ceiling and graceful columns covered with paintings and carvings are worthy of attention in their own right.

In the photos: old Kungun jug decorated with chasing and ancient ornaments for women.

Kiev in the year 2000

The technico-economic basis for the development of Kiev, capital of the Ukraine, up until the year 2000 has recently been approved.

The new proposals are contained in the development of the city master plan approved in 1967.

Special attention will be paid to fundamental and applied sciences which promote scientific and technological progress. In industry the main stress will be laid on such branches as precision engineering, instrument-making, and light industry. Provision has been made for the reconstruction and retooling of enterprises without raising the number of the work force as well as the resettlement of some factories and plants which are currently causing an unfavourable effect on the environment.

It is expected that Kiev's population will be around 3,000,000 by the start of the next century. High building rates for housing will remain—8,100,000 sq m of housing over a five-year plan period.

New record-deep cave found in Caucasus

Experts say that a recent achievement by a group of speleologists from Leningrad can only be compared with the ascent of Mount Everest. In the Bzybysky Mountain Range, in the Caucasus, they have discovered a cave more than 1,400 metres deep.

The speleologists set out from the Mezheny cave whose entrance lies on a slope of the Bzybysky Range above the 1,200-metre deep Snegynaya cave which up to now has been regarded as the deepest in this country.

The first stage of the descent down the cave lasted for nearly

46 hours. There was hardly space to put up a tiny tent.

At a depth of 570 metres, the speleologists came upon an underground river which penetrated still further into the mountain via a huge barrier of boulders. After great effort they managed to open up a narrow passage at the end of which they found a fabulously beautiful hall which could accommodate with ease St Isaac's Cathedral in Leningrad.

The overall depth of the newly discovered cave is only 70 metres less than the Jean Bernard cavern in the French Alps, the largest in the world.

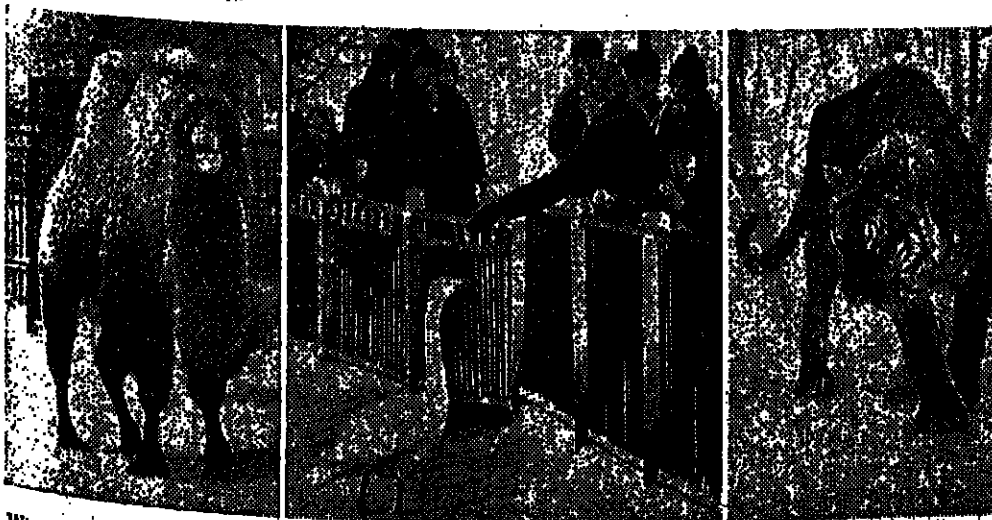
Latest in milk products

It is known that increasing the share of yogurt-type products in a child's diet helps to reinforce his resistance to disease thanks to the higher content of vitamin B, free amino acids and other useful substances in such products. And it is exactly this aim that specialists at the All-Union Research Institute for the Milk Industry were after when they designed a special children's "probiokvashne" (a yogurt-type beverage) in which conventional saccharose is replaced by fructose.

Another yogurt-type product meant for children is Biofido-

lact enriched with substances to improve the metabolism and to invigorate the human organism.

And in working out a new butter-making process, food experts have "designed" a new biologically more active food with a lower fat content, thus making it two to three times more nourishing than known types of butter. It also has two to three times more proteins saving all vital amino acids and lecithin, known to be of special importance for building up the nervous system. In addition, it is rich in various minerals and vitamins A, D and E.



Winter at the Moscow Zoo.

AN INFORMATION No. 7, 1984

VIEWPOINT

USSR agriculture: CHANGES IN INVESTMENT POLICY

Anatoly KOSYNKIN, Cand. Sc. (Economics)

From 1918 to 1982 the USSR invested in agriculture 568,000 million rubles and of this amount 458,500 million rubles were invested over the past 17 years. These investments will continue to grow in the future as well, but investment policy priorities are changing substantially.

Before the 80s the idea was to set up a reliable material and technical basis for agriculture in the Soviet Union. Today this aim has been achieved; the basic production assets for agriculture are now estimated at 272,000 million rubles, and energy available for the countryside amounts to 680 million hp. In other words, mechanization, large-scale land improvement, the development of agrochemistry, the streamlining of the infrastructure, specialization and the improvement of technology have now resulted in an advanced farming industry.

But a number of bottlenecks continue to exist. First of all it is necessary to solve the problems of storing and processing farm produce and its transportation. Much is being done in this direction.

A total of 233,000 million rubles, i.e. about a third of all capital investments in the USSR national economy, have been invested in the current five-year plan period (1981-1985) for the development of the country's agro-industrial complex, including the industries supplying agriculture with the means of production. Agriculture alone will receive 190,000 million rubles in the current five-year plan period.

A considerable part of this money will be used to build up agricultural production assets (which grew four times over the past two decades) and energy (a three times growth). However, economists believe that by 1990 it will be necessary to further increase these assets by 50 per cent, and energy by 70 per cent.

The emphasis of the state's investment policy is changing in favour of the social needs of the countryside. In 1976-1980 expenditures on the construction of non-productive projects (rural schools, kindergartens, nurseries, hospitals, houses of culture, shops and public service establishments and so on) grew from 19,200 million rubles to 26,700 million.

In fifteen years (from 1966 to 1980) 500 million square metres of housing were built in rural localities. Plans are under way to build 178 million square metres of comfortable housing in 1981-1985 and in the next five-year period another 16-18 per cent more. Besides this, it is planned to put into operation 130,000 km of main roads and 130,000 km of roads connecting collective farms.

Thus, having a flexible capital investment policy, the state always concentrates on the weak spots. According to experts such an approach will help to considerably intensify agricultural production already at the first stage of the implementation of the USSR Food Programme.

Science and technology

SURGEONS UTILIZE COLD

Scientists from the Siberian city of Tomsk have carried out a successful operation by using a special cryo-ultrasonic scalpel designed by the Siberian Physical Technical Institute.

It consists of a conventional surgical scalpel fitted with a thin nitrogen duct which cools the blade down to -180°C. The instrument also has ultrasonic sensors which do not allow the blade to stick to tissues and stop bleeding.

'PASSENGERS' IN A SPUTNIK

Not long ago several guppy fish, some laboratory rats and two thesus monkeys, Altyek and Bion, made a 5-day flight for biological purposes to outer space in the sputnik Kosmos-1514.

After a successful landing the "passengers" were sent to the laboratory at the Institute of Medical-Biological Problems of the USSR Ministry of Public Health. Scientists are now processing the information obtained during the flight.

AN 'OVEN'

IN THE PACIFIC

The Komandorsky Trough in the North Pacific is a unique hot spot on the globe. The amount of heat which escapes here to the Earth's surface is much greater than that at the Kamchatka Peninsula famous for its volcanoes, geysers and hot springs.

The volcanologists who explored the trough believe the heat escape here is five times that of adjacent areas.

This is indicative of a thin lithosphere, which includes the Earth's crust and part of the upper mantle. At a depth of between eight and twelve kilometres, matter is heated to a temperature of 1,000-1,200°C, whereas in Kamchatka such temperatures are characteristic of depths of 35-40 kilometres. From the geothermal data one can see that the asthenosphere, the deeper mantle, is closer to the surface in this part of the globe than elsewhere, and has a lower density, is less viscous and consequently, more mobile. It is quite possible that this is the reason for the ocean floor spread at this point causing large fissures, or rifts, to open up.

GLUE FOR TINY

BLOOD VESSELS

The joining of veins in surgery can be speeded up by the use of a biological glue invented by specialists from the Latvian Neurosurgical Centre.

The adhesive substance, which they obtained from components of human blood, solidly links thin arteries up to one and a half millimetres in diameter without causing any rejection. This glue is compounded of two powders combined during the operation within a matter of minutes. When the two components are mixed up in a solution, the resultant adhesive (a jelly-like mass) is applied onto the edges of the severed vessels. Facilitating their natural coagulation, it is completely dissolved in about a week.

This breakthrough came down on the number of future need. It can also be used to stop capillary hemorrhage. The new compound, which has been patented as an invention, is now used to advantage in brain surgery at various clinics.

Photos by Andrei Knyazev

ENTERTAINMENT

Theatre, Cinema and TV Stars

NATALYA TENYAKOVA



she graduated from drama school. She then worked with the Lenia Komosomol Theatre in Leningrad, for two years, after which she was invited to join the famous Gorky Company led by the Soviet director, Georgi Tovstonogov. Here, for the next 13 years, she was to act contemporary and classical roles, comedy and tragedy: she was Maria Antonovna in Gogol's "The Inspector-General"; Vera in "Three Sacks of Weddy Corn" by Vladimir Tendryakov; Yulia Filippovna in Gorky's "Summer Guest", and Armande in Bulgakov's "Molliere".

It was at the Gorky Theatre that Tenyakova met Sergei Yurskiy, the actor, who was to become her constant partner, director and eventually, husband. Even the Yurskiy's daughter, Dasha, who is only just ten, dreams of becoming an actress. Dasha is a harsh critic. She disapproved of her mother as Hedda Gabler, for instance, because she was so unlike herself in real life.

Indeed one of the characteristic features of Tenyakova's talent is the extraordinary way she is able to embody the inner world, as well as the physical features of each character she plays. She does not mind being old on the stage, or ugly. Thus she switches from the role of powerful, drunk beauty — Hedda Gabler — to that of a 70-year-old woman, as if nothing could be more natural in the world. And this is no exaggeration. For together with Sergei Yurskiy she has starred work on Vladimir Menshikov's film (based on the play "Love and Pigeons" by the young Siberian dramatist, Vladimir Gorkin) in which she and her husband will play the parts of an elderly married couple in their seventies.

Of late Natalya Tenyakova's appearances on the screen and TV have been fairly infrequent and this despite her promising debut in films. Many still remember her in "The Elder Sister" and in "The Green Car" where she played the legendary Russian actress, Anziskova. The truth of the matter is, however, that Natalya Tenyakova looks on herself first and foremost as belonging to the theatre — she loves the process of rehearsal, the long incubation period needed to get into a role. She has often turned down film offers that didn't live up to her expectations. When, however, it is Dostoyevsky that is in question, and a role of the calibre of Maria Alexandrovna Moskalova — then all hesitation goes out of the window.

Natalya KUROVA

JEWISH LITERATURE IN THE USSR

Works by writers and poets of the Jewish Autonomous Region in the Far East have been included in a collection entitled "Birbidzhan — Land Far and Close" put out in Yiddish by the Sovetskoye Pustel Publishers in Moscow. The book marks the 50th anniversary of this autonomous region to be celebrated this coming May.

Several more books in Yiddish are in preparation, said Arnold Tamm, in charge of the

publishers' ethnic literature section. They include: Teyve Gen's "Our Times", and a collection of short stories by Boris Galperin. These writers depict their contemporaries — workers and engineers, scientists and doctors, builders and farmers. Their books deal with such problems as the moral world of modern man and the continuity of generations.

Publication plans for this year include a new collected

works by the oldest Jewish poet, Isak Bukhbinder, written by him during the last ten years. Bukhbinder's poems are noted for their affinity to the best national traditions.

The poetry of Aron Vergelis and Lev Kvijko (1890-1952) will also be published, as well as books by some young poets. Jewish literature in the USSR is flourishing, emphasized Tamm. Books in Yiddish in increasing numbers of copies are put out by our publishers every year.



An exhibition, "Russian Art of the Second Half of the 19th Century", from the Saratov and Kuzbyshev art galleries, has opened at the Central Artists Club in Moscow. The 80 canvases on view before. After the exhibition the paintings will be returned to Saratov and Kuzbyshev, as is the case with many other cities in this country, both towns possess valuable collections of old paintings. Mikhail Nesterov, "Youth of Sergiy". • Alexander Makovsky, "Monastery Wall."

VIENNA — MANCHESTER — ATHENS

Irina Arkhipova, the Bolshoi soloist, always has a busy time when on tour. For instance, from Vienna where she had gone to record Sergei Prokofiev's cantata "Alexander Nevsky", she flew to Manchester via London, to sing in a new production of Verdi's "Il Trovatore", by Covent Garden. In between performances, she appeared in Athens, to take part in a memorial concert dedicated to Maria Callas. The sponsors of the event had asked the singer to perform songs by Russian composers only.

Her name drew six thousand enthusiastic fans to the ancient open air theatre of Odeon At-

tika. The evening was pronounced a tremendous success and this in spite of the fact that the singer, after an evening performance in Manchester had to catch the next plane to Athens where, due to differences in time and flight delays, she only just made it to the concert. This is the first time that Irina has sung Russian classical romances in Greece, said Arkhipova. The way local audiences listened to and appreciated Glinka, Mussorgsky, Tchaikovsky and Rachmaninov, was unbelievably touching, the songs seemed utterly transparent to them.

Drawings brought alive

The faces of people of ages long past look down at us from old portraits as though alive. Staff from the department of drawings at the Igor Grabar All-Russian Research and Restoration Centre, are now completing the restoration of a collection of Russian pastel drawings of the 18th-early 20th centuries.

Some 150 pastel portraits drawn by famous masters and unknown artists of past centuries were brought to our centre from different museums around the country, says Y. Kostikova, a highly qualified restorer, who has headed the department of

drawings for the past 25 years. Hundreds of world masterpieces owe to her their life. She has worked for the Dresden Art Gallery, restoring engravings, for the Tretyakov Art Gallery, and for museums in Leningrad, Rybinsk, Krasnodar, Poltava and Vladivostok. Restorers at her department will take on anything: from pastels on parchment, paper, cardboard or suede, a Japanese wood engraving in colour, to Oriental water colours painted on silk scrolls. To save each of these works upwards of 100 truly exquisite operations had to be conducted.

The French guitar-player, Jean-Pierre Jumez, during a concert he gave recently at the Tchaikovsky Concert Hall in Moscow, Jumez, who often appears on French radio and TV, has visited the USSR several times. His repertoire includes almost all classical and modern music for guitar, as well as works that are seldom performed. Jumez is also a composer, his latest composition being music for a new Marcel Marceau production.



Photo by Boris Politsky

WHAT'S ON?

January 24-27

THEATRES

Kremlo Palace of Congresses (Kremlo), 24 — Petrov, "The Creation of the World" (ballet, performed by the Moscow Classical Ballet Ensemble). Bolshoi Theatre performances: 25 — Rossini, "The Barber of Seville" (opera), 27 — Puccini, "Madama Butterfly" (opera).

Bolshoi Theatre (Sverdlov Sq), 24 — Rimsky-Korsakov, "The Legend of the Invisible City of Kitezh" (opera), 25 — Shchedrin, "The Sea Gull" (ballet), 26 — Shchedrin, "Dead Souls" (opera), 27 — A concert by the Bolshoi soloists.

Staniislavsky and Nemirovich-Danchenko Musical Theatre (17 Pushkinskaya St), 25 — Tchaikovsky, "The Snow Maiden" (ballet), 26 — Tchaikovsky, "Swan Lake" (ballet), 27 — Leoncavallo, "Il Pagliaccio" (opera).

Operetta Theatre (6 Pushkinskaya St), 24 — Gadzhiev, "A Crossroads", 25 — Gladkov, "The Elder Son" (opera, performed by the Staniislavsky and Nemirovich-Danchenko Musical Theatre), 26 — Gorkhovskiy,

FILMS

The Moon's Rainbow (Mos film Studios, USSR).

A sci-fi film about the mysteries of the Universe. Cinema: "Mir" (11 Tsvetnoi Blvd), Metro Kolkhozovaya. Strictly by Orders (Poland).

About the Resistance Movement in Poland during World War II.

Cinema: "Planeta" (11 Zhiznaya Blvd), Metro Universitetskaya, 25, 26.

CONCERT HALLS

Central Concert Hall (1. Moskovskaya Embankment, at the Rossiya Hotel), 24, 25, 26 — "I Love You My Captain", a concert programme, featuring prominent performers from Leningrad and Moscow.

Lesna Central Stadium, Small Sports Arena, (Luzhiki), 24, 25.

BUSINESS

USSR — HUNGARY: PLANS FOR 1984

A recently signed protocol on trade turnover for 1984 between the USSR and Hungary amounts to over 8,600 million roubles. Andre Molnar, chief trade counsellor at the Hungarian Embassy in Moscow, told a press conference here. He emphasized that the Soviet Union was Hungary's No. 1 partner among the socialist countries in both exports and imports, accounting for upwards of 30 per cent of Hungary's foreign trade.

Bilateral cooperation between our two countries, he continued, is characterized by stability. And this goes to show that the results of cooperation of the past few years and the long-term agreements and programmes forming the core of targets for the present year reflect the true needs of our mutual economies and indicate the possibility of meeting these needs in years to come.

Contacts and contracts

• The USSR will help Angola build a fishing port as well as assist it in the construction of hospitals, oil depots, and workshops for repairing agricultural machinery.

• Under contracts signed by V/O Stankompost, eight grinding machines will be sold to West Germany, while France will supply the USSR with a consignment of vertical drilling machines and lathes.

• A trade agreement between the USSR and Zimbabwe signed in Harare calls for the comprehensive development of bilateral trade and economic cooperation. This first such agreement with the USSR signifies a new stage in the expanding relations between the USSR and Zimbabwe, Zimbabwean Minister of Trade and Commerce Richard Hove emphasized at the signing ceremony.

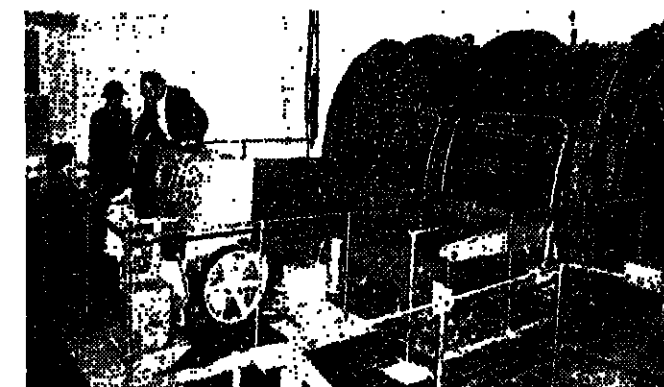
Energy, engineering goods and raw materials will form the bulk of Hungary's imports from the Soviet Union this year. In addition, we will buy large quantities of tractors, lorries, cars, electronic products, consumer goods, etc.

The USSR will import from Hungary the popular Ikarus buses and their spares, computer and communication equipment, foodstuffs, medicines, clothes, etc.

Cooperation will continue in the construction and reconstruction of industrial projects in both countries. To illustrate, in the closing months of last year the first unit of Hungary's first Paks nuclear power plant went into operation; when completed the plant will operate at 1,700 MW capacity.

Hungary and other socialist countries are assisting the USSR with the construction of the Khamovnikskaya nuclear power plant whose electricity will be used, apart from Soviet consumers, by the participating nations, too.

Our cooperation plans for this year are bigger than ever, Molnar emphasized. I want to stress this point in view of the general stagnation of world trade at the present time.



450 thousand tonnes of coal will be produced annually by the first stage of the Mong-Duong mine, a major Soviet-Vietnamese project of cooperation in the Quang Ninh province. This is the first one incorporating a vertical shaft making it more efficient in local conditions. Photo: the lifting mechanism of the main cage, Mong-Duong mine.

JOINT VENTURES TO DIVERSIFY

1983 was a remarkable year in the history of our relations with the Soviet Union, Alexander Norilo, head of the Moscow office of Valmet, the Finnish state-run company told our correspondent. We have recently delivered to the USSR the 500th ship built by our shipyards to Sudimport order to date.

Apart from shipbuilding, the centre-piece of our bilateral cooperation, Norilo continued, we are looking for other forms of activity. Last year saw the signing of a long-term agreement on the joint production of so-called flexible production lines, with the Ivenovo machine-building plant in the Russian Federation representing the Soviet side on the project.

We will continue cooperative ventures in the development of forestry machinery based on tractors produced by the Onga and Kharkov works. We are also keen to develop processes and production control systems based on Soviet computers.

In the paper-and-pulp industry we have much useful experience behind us in the joint development of paper-making machines. We believe, Norilo concluded, that we have far from exhausted possibilities for future cooperation.

V/O SOJUZVNESHTRANS—SOLE FORWARDING AGENT FOR SOVIET EXPORT CARGO

V/O Sojuzvneshtrans, the sole forwarding agent for Soviet foreign trade cargo, provides forwarding services both inside the country and abroad. Any type of transport may be employed — we deliver cargo by SEA, RIVER, MOTORWAY and by AIR.

We specialize in the very latest and most efficient methods of transportation — CONTAINERS for instance. V/O Sojuzvneshtrans organizes the delivery of equipment and materials sold to the USSR for TURN-KEY projects.

In cooperation with V/O Sojuztrans we undertake to expedite goods in TRANSIT through Soviet territory.

We operate a COURIER SERVICE for the urgent delivery of documents (banking, commercial, invoices accompanying goods, etc.).

In order to ensure all these services Sojuzvneshtrans has a wide network of BRANCHES at sea and river ports, at border railway terminals, at railway administration centres and also at Moscow's transportation junction.

We maintain our own storage facilities for conditioning, stockpiling and storing cargo in Leningrad and Ljilchovsk, Ventspils and Tarmez, Ashkhabad, Dzhulfa and Kushka.

Sojuzvneshtrans belongs to the AMALGAMATED SOCIETIES for transportation and forwarding operations which function in quite a few countries of Europe and Asia: Austria (Austria), Ashes and Alsos (Afghanistan), Vsesotia (FRG), Ialsotia (Italy), Irsot (Iran), Saimae Laine (Finland), Skaniot (Sweden).

We have representatives in Algeria, Iraq, Vietnam, Hungary, the Democratic People's Republic of Korea, Yugoslavia, the German Democratic Republic, Poland, Czechoslovakia and Switzerland, as well as with the following companies: Segma (France) and ASPO (Great Britain).

V/O Sojuzvneshtrans is affiliated to the International Federation of Forwarding Associations. Our business partners include more than 200 transport firms and organizations in 57 countries.

Sojuzvneshtrans was awarded the Gold Mercury international prize for its successful operations in the field of transportation and forwarding and for its promotion of international cooperation.

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50 years of mutually profitable links

For half a century now the Finnish firm Wärtsilä has been cooperating with the USSR in shipbuilding. Over this period the Soviet Union bought over 400 ships from the firm. The first of these, the tanker "Exporter", was launched in the early '30s and the latest — the "Alektz Korunov" — in the last days of October 1983.

Wärtsilä ships work in all parts of the USSR. The rivermen of Siberia are well acquainted with the low-draft "Kapitan Chechkin" icebreaker. The cruise ship "Byelorussia" sails on international passenger lines. Several Wärtsilä ships were among the Soviet Arctic fleet which, during the war, with honours from the ice blockade off the shores of Chukotka.

The significance of Soviet orders for Finland is known to anyone working in our firm, says Wärtsilä board chairman Tankmar Horn. We think with ample justification that Soviet-Finnish cooperation in shipbuilding will continue to develop and deepen on the firm principle of mutual gain.

PHILATELY BEACONS

The USSR Ministry of Communications has issued a series of postage stamps, under the title "Beacons in Soviet Seas". In the photo: two stamps featuring beacons in the Baltic, the one on the left is the Kõpu beacon, and the one on the right is the beacon at Siltauden.

